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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 05/12/2004
David P Gordon Esq
65 Woods End Road
Stamford, CT 06905

EXAMINER

CUFF, MICHAEL A

ART UNIT

PAPER NUMBER

3627

DATE MAILED: 05/12/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,719	09/08/2000	Kevin E. Mahaffy	AAI-002	2832

TITLE OF INVENTION: POINT-OF-SALE COMMERCIAL TRANSACTION PROCESSING SYSTEM USING ARTIFICIAL INTELLIGENCE ASSISTED BY HUMAN INTERVENTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$665	\$0	\$665	08/12/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: **Mail**

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CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590 05/12/2004

David P Gordon Esq
65 Woods End Road
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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	YES	\$665	\$0	\$665	08/12/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
CUFF, MICHAEL A	3627	705-016000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee
- ☐ Advance Order - # of Copies _____

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- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) (Date)

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 326 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 326 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/657,719

Examiner

Michael Cuff

Applicant(s)

MAHAFFY ET AL.

Art Unit

3627

NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/5/03.
2. ☒ The allowed claim(s) is/are 1-40 and 49.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

#8/D

DETAILED ACTION

RCE & Amendment

1. Applicant's Request For Continued Examination (RCE) and amendment, filed 6/6/03, have been received and entered. Independent claims 1, 20, 31, and 40 have been amended. Claims 41-48 have been canceled.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Jacobson on March 8th, 2004.

The application has been amended as follows:

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Claim 1 has been amended as follows –

1. A point-of-sale commercial transaction processing system for processing a customer transaction based upon a verbal instruction from the customer, comprising:

- a) a first customer interaction terminal (CIT) adapted to receive the verbal instructions from a customer and convert the verbal instruction into an audio signal;
- b) a first computer system in communication with said first CIT and including an artificial intelligence (AI) system which receives said audio signal and semantically processes said audio signal to at least partially recognize the verbal instruction from the customer, said AI system adapted to parse the verbal instruction using grammatical syntax; and
- c) a human-controlled response system in communication with said first computer system and adapted to automatically intervene to interact with the customer when said AI system has not satisfactorily semantically processed the verbal instruction from the customer.

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Claim 20 has been amended as follows –

20. A method of processing a commercial transaction, comprising:

- 02
- a) providing an interactive terminal;
 - b) eliciting a verbal instruction from a customer to the interactive terminal;
 - c) upon receiving verbal instruction from the customer to the interactive terminal, semantically processing the verbal instruction with artificial intelligence (AI) routines, said AI routines adapted to parse the verbal instruction using grammatical syntax; and
 - d) upon automatically determining by the AI routines that there is a problem in said semantic processing, intervening by a human to process the verbal instruction.
-

Claim 31 has been amended as follows –

31. A method of processing a commercial transaction with a customer, comprising:

- 03
- a) with an artificial intelligence (AI) processor located in a first building, communicating with the customer who is also located in the first building, said AI processor adapted to parse a verbal instruction using grammatical syntax; and
 - b) providing real-time human support from a second building different from said first building to said AI processor located in said first building for processing said communication.
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Claim 40 has been amended as follows –

41 40. A method of processing a commercial transaction with a customer, comprising:

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- a) with an artificial intelligence (AI) processor located in a first building, communicating with the customer who is also located in the first building, said AI processor adapted to parse a verbal instruction using grammatical syntax; and
 - b) transferring the communication from between the customer and the AI processor to between the customer and a human who is located in a second building different from said first building, wherein said transferring is substantially seamless such that the customer is substantially unaware of the transferring.

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New claim 49 has been added as follows –

3 49. A method according to claim 20, further comprising:

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Upon determining by the customer that there is a problem in said semantic processing, intervening by a human to process the verbal instruction.

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Drawings

3. The application having been allowed, formal drawings are required in response to this Office Action.

Allowable Subject Matter

4. Claims 1-40 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Claims 1 and 20 recite the limitations of a customer terminal which receives verbal instructions, a computer using artificial intelligence (AI) which semantically processes an audio signal, and a human-controlled response system. This full combination of limitations is not shown or taught by the prior art of record. The Schneider appears to be the closest reference, but applicant limits the broad term AI and has amended to specify that the invention semantically processes the audio signal and has the ability to parse the verbal instruction using grammatical syntax. The examiner does not believe that there would be motivation to replace the "voice recognition" (VR) of Schneider with an improved AI system because the VR was merely an alternate embodiment for the simple system of buttons 1 to 10.

Claims 31 and 40 recite limitations focusing on the location of the elements of the claim. The claims recite an AI system communicating with a customer where both are located in a first building and providing real-time human support from a second building. Store environments, such as Schneider, teach away from having the human support in

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a different building. The other uses for AI appear more in the decision making areas, not communication. The Wren reference shows a customer system, which uses AI, but it uses AI to monitor the customer's actions and to make a decision when to volunteer assistance (bottom column 15). The Wren AI system is also located in a different building from the customer. The examiner believes that the full combination of limitations recited by claims 31 and 40 are not shown nor taught by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wren shows a sales system with remote customer and an AI system. Sloane et al. shows a shopping system of interest. Eastman Kodak system shows a remote monitoring system with AI of interest. Long et al. article shows a real-time remote monitoring system of interest.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cuff whose telephone number is (703) 308-0610. The examiner can normally be reached on 8:00 to 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Olszewski can be reached on (703) 308-5183. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Cuff 5/6/04
Michael Cuff
May 6, 2004

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